

CLAIMS

1. A nozzle for use in generating a pressure jet of liquid wherein the nozzle has a proximal end for connection to a source of pressurised liquid
5 and a distal end at which the pressure jet is generated, characterised in that the nozzle comprises a hollow tube having an axial lumen wherein the lumen has a restriction at the distal end in which an orifice is formed wherein the orifice has a width and an axial length, the width of the orifice being less than that of the lumen, and wherein the hollow tube and the
10 restriction being integrally moulded from a plastic material.
2. A nozzle as defined in Claim 1 wherein the axial length of the orifice is such that the pressure jet of liquid generated by the nozzle is a surgical pressure jet of liquid.
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3. A nozzle as defined in Claim 1 or Claim 2 wherein the ratio of the axial length of the orifice to its width is 1:1 to 5:1.
4. A nozzle as defined in any one of the preceding Claims wherein the
20 nozzle has an additional lumen which is preferably arranged such that the axes of the two lumen are substantially parallel.
5. A nozzle as defined in Claim 4 wherein the additional lumen is closed at its distal end.
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6. A nozzle as defined in Claim 4 or Claim 5 wherein the additional lumen contains a stiffening element, which is preferably a wire, especially a metal wire.
- 30 7. A nozzle as defined in any one of Claims 1 to 5, wherein the nozzle is sufficiently flexible that the nozzle can be selectively disposed in a

curved orientation under manual lateral pressure applied by a surgeon's hand during dissection on a patient.

8. A nozzle as defined in Claim 7 which is sufficiently elastic for the
5 nozzle to return to a straight axially aligned configuration when the lateral
pressure is removed.

9. A nozzle as defined in any one of the preceding Claims which is composed of a thermoplastic polymeric material, preferably a thermoplastic
10 polycondensate, especially a polyaryletherketone resin.

10. A nozzle substantially as hereinbefore described or as depicted in Figures 3 and 5 to 8.

15 11. A surgical dissection instrument for generating a pressure jet of liquid, the instrument comprising a handpiece, the handpiece being provided with an inlet conduit for receiving a supply of liquid to form a pressure jet and a nozzle as defined in any one of the preceding Claims wherein the nozzle is in fluid communication with the inlet conduit and
20 extends from the handpiece.

12. An instrument as defined in Claim 11, which has a mechanism for controlling the pressure jet of liquid

25 13. An instrument as defined in Claim 11 or Claim 12, wherein the handpiece further comprises an annular collar of plastic material which connects the nozzle to the inlet conduit, the respective ends of the hollow tube and the inlet conduit being push fitted into respective annular ends of the collar and the push-fitted assembly being bonded with adhesive or by
30 thermal bonding.

14. An instrument as defined in any one of Claims 11 to 13, wherein the handpiece further comprises a manifold at a distal end thereof, the manifold surrounding a proximal portion of the nozzle and defining an internal chamber which is in fluid communication with a suction tube which
5 extends through the handpiece and, in use, is connected to a source of suction.
15. An instrument as defined in Claim 14, wherein the handpiece further comprises an aspirator tube of plastic material fitted to a distal portion of
10 the manifold, the aspirator tube being cylindrical and surrounding the nozzle.
16. An instrument as defined in Claim 15, wherein the aspirator tube has a wall thickness such that it is sufficiently flexible that the aspirator tube
15 can be selectively disposed in a curved orientation under manual lateral pressure applied by a surgeon's hand during dissection on a patient.
17. An instrument as defined in Claim 15 or Claim 16, wherein a proximal end of the aspirator tube is push fitted into the distal portion of
20 the manifold.
18. An instrument substantially as hereinbefore described or as depicted in Figure 2 or Figure 4.
- 25 19. A method of manufacturing a nozzle for a surgical dissection instrument for generating a pressure jet of liquid, the method comprising the steps of:
extruding a plastic material to provide a hollow tube having an axial lumen;
30 moulding an end of the extruded hollow tube to form an integral restriction at the end; and

forming an axially directed orifice which extends through the restriction to the lumen, the width of the orifice being less than that of the lumen.

5 20. A method as defined in Claim 19, further comprising the step of cutting the tube to a selected length.

21. A method as defined in Claim 19 or Claim 20, wherein the nozzle is sufficiently flexible that the nozzle can be selectively disposed in a curved
10 orientation under manual lateral pressure applied by a surgeon's hand during dissection on a patient.

22. A method as defined in Claim 21, wherein the nozzle is sufficiently elastic for the nozzle to return to a straight axially aligned configuration
15 when the lateral pressure is removed.

23. A method as defined in any one of Claims 19 to 22, wherein the plastic material is a thermoplastic polymeric material, preferably a thermoplastic polycondensate, especially a polyaryletherketone resin.